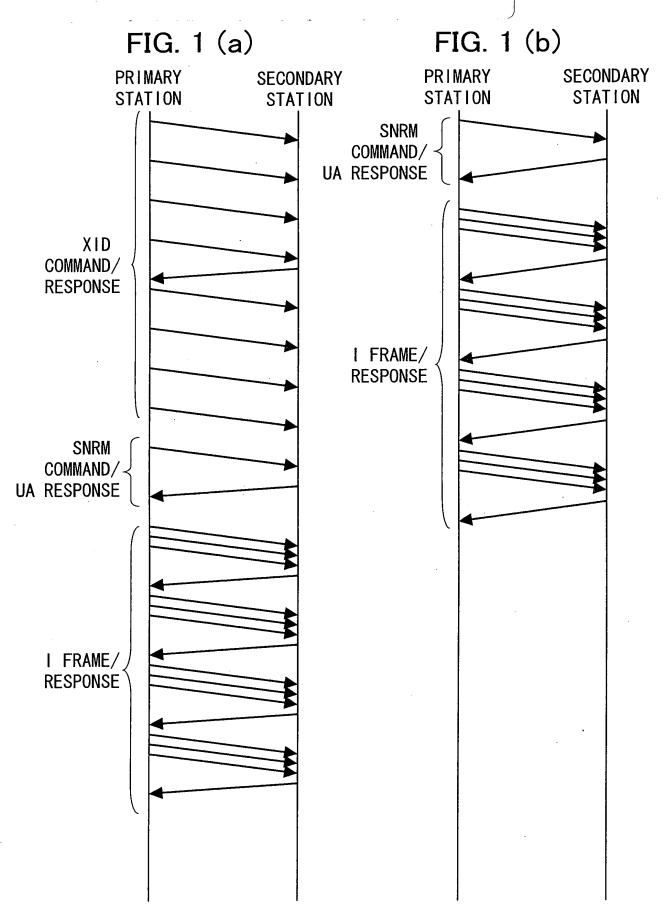
App No.: NEW Docket No.: 1248-0867PUS1
Inventor: Hitoshi NAOE et al.
Title: TRANSMITTER, RECEIVER, COMMUNICATION SYSTEM,
COMMUNICATION METHOD, COMMUNICATION PROGRAM
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Inventor: Hitoshi NAOE et al.
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FIG. 2

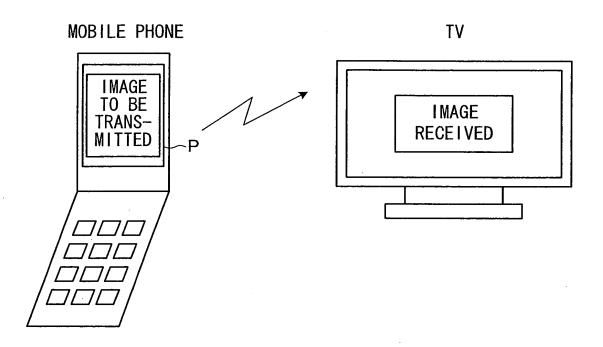
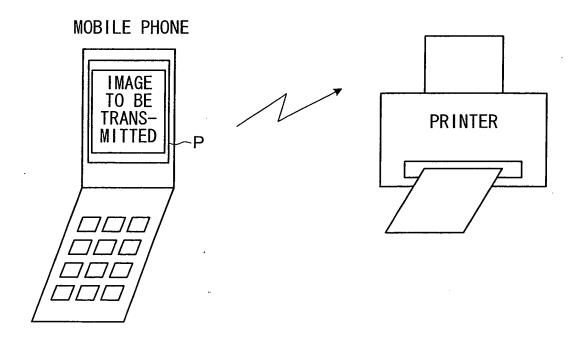


FIG. 3



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FIG. 4

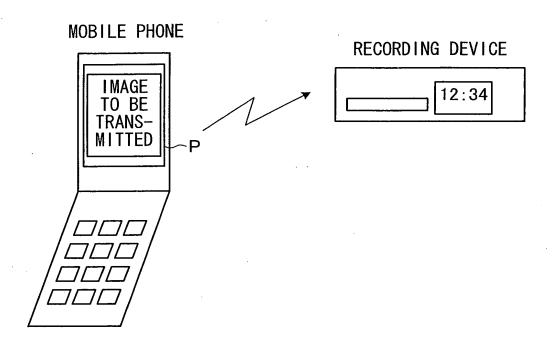
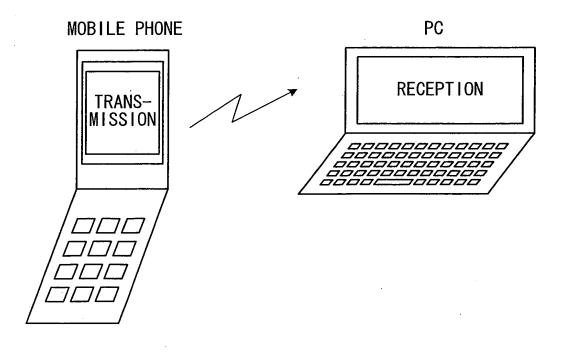


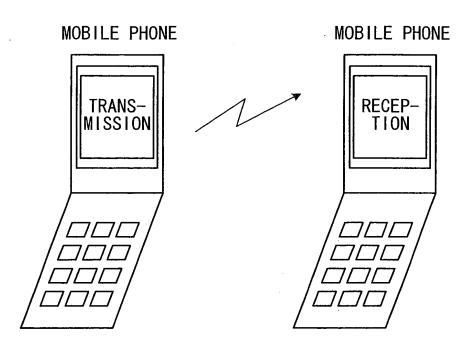
FIG. 5



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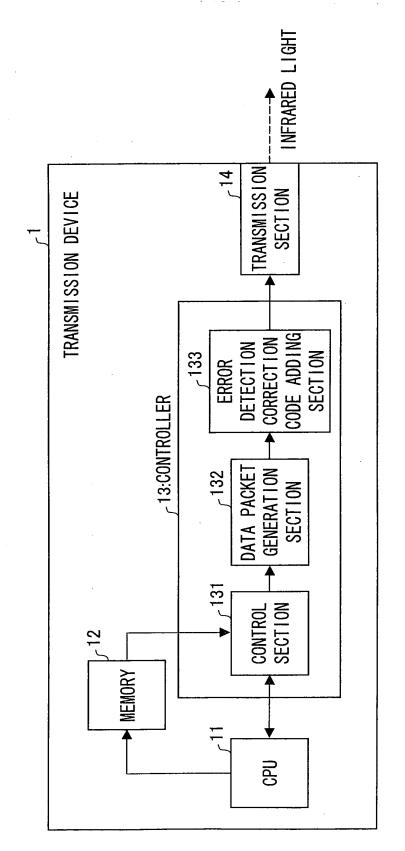
App No.: NEW Docket No.: 1248-0867PUS1
Inventor: Hitoshi NAOE et al.
Title: TRANSMITTER, RECEIVER, COMMUNICATION SYSTEM,
COMMUNICATION METHOD, COMMUNICATION PROGRAM
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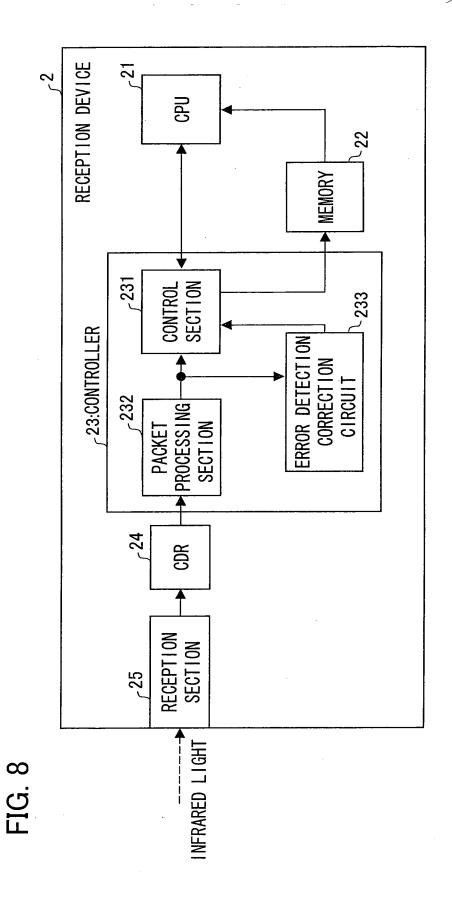
FIG. 6



App No.: NEW Docket No.: 1248-086/PUS I Inventor: Hitoshi NAOE et al.

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COMMUNICATION METHOD, COMMUNICATION PROGRAM
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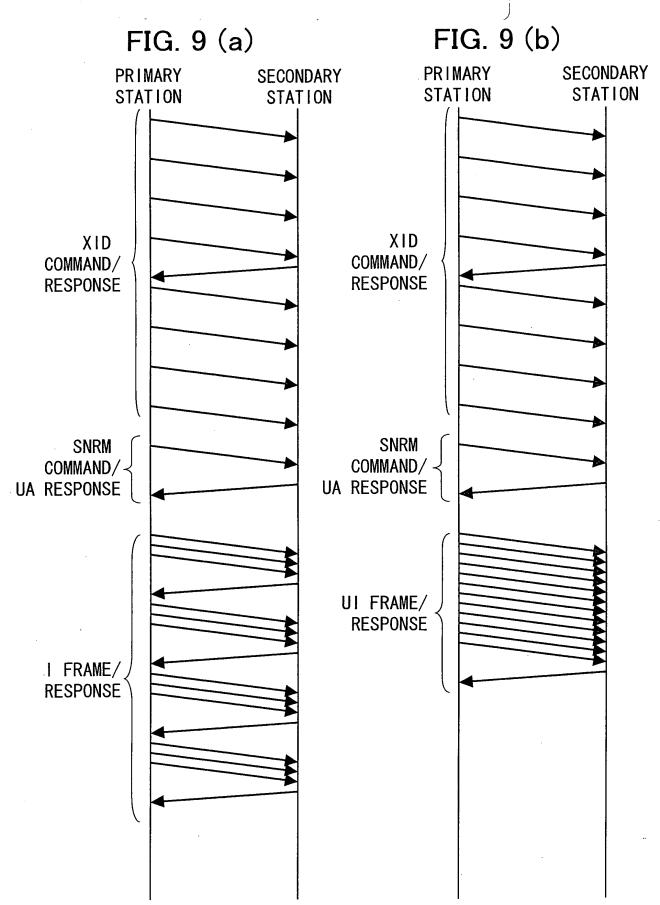


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Inventor: Hitoshi NAOE et al.

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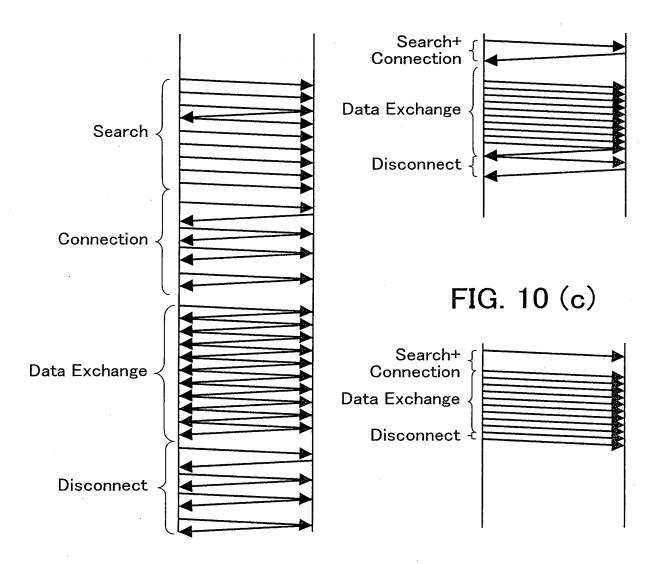
Inventor: Hitoshi NAOE et al.
Title: TRANSMITTER, RECEIVER, COMMUNICATION SYSTEM,

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FIG. 10 (a)

FIG. 10 (b)



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Title: TRANSMITTER, RECEIVER, COMMUNICATION SYSTEM,
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FIG. 11 (c)

SNRM command

FIG. 11 (b)

FIG. 11 (a)

SNRM Addr=0xFE C/R=1

	SMP OBEX Parameters Connect Resp
	SMP Parameters
	Negotiation Parameters
	Connection Address
	Destination device address
RM ·	Source device address
e for SN	SNRM
UA response for SNRM	C/R=0 Connection SNRM Address

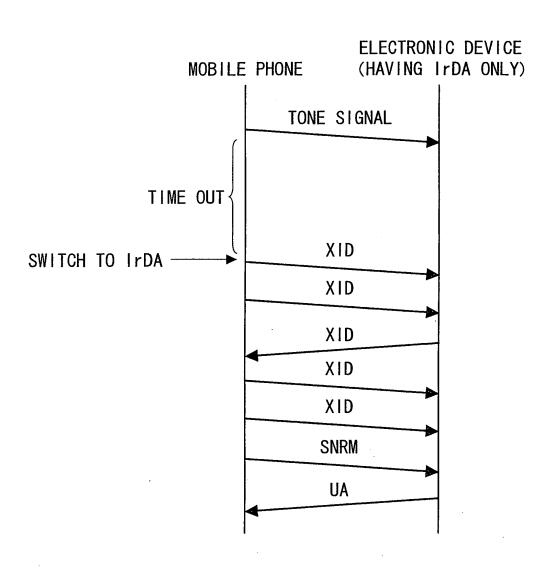
Docket No.: 1248-0867PUS1 App No.: NEW

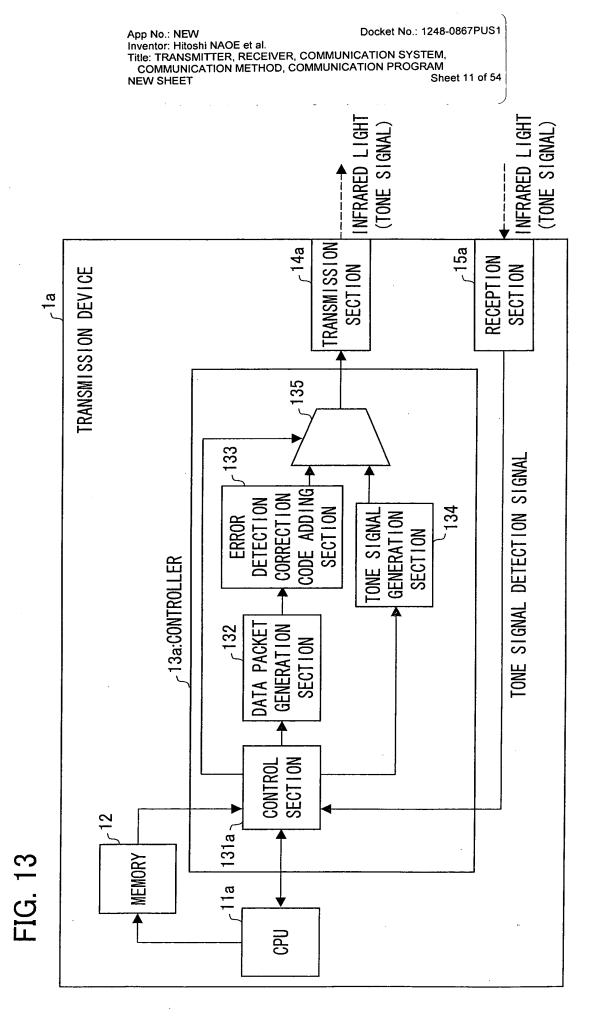
Inventor: Hitoshi NAOE et al.

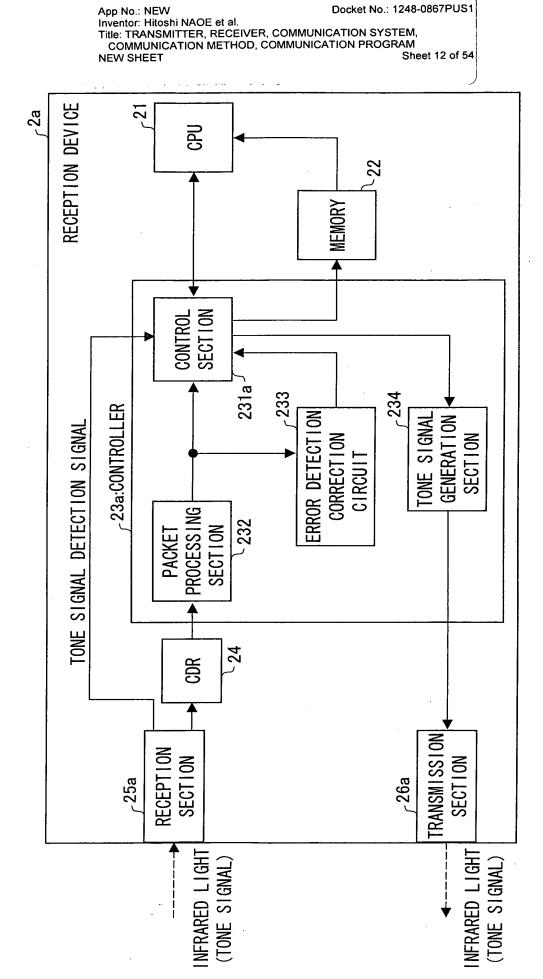
Title: TRANSMITTER, RECEIVER, COMMUNICATION SYSTEM,
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FIG. 12



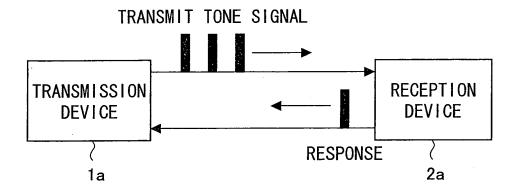




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FIG. 15



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FIG. 16 (a)

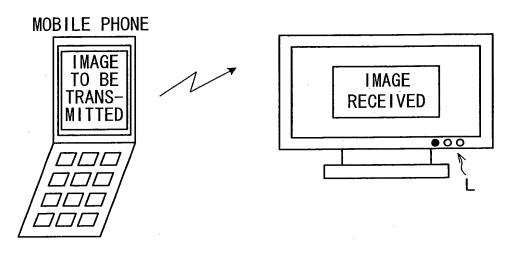


FIG. 16 (b)

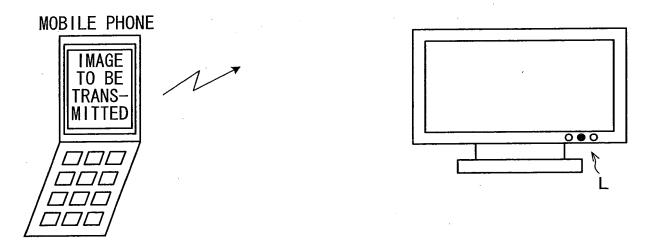
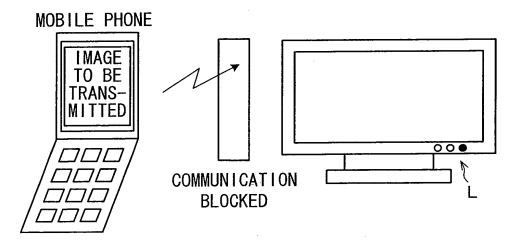


FIG. 16 (c)



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FIG. 17 (a)

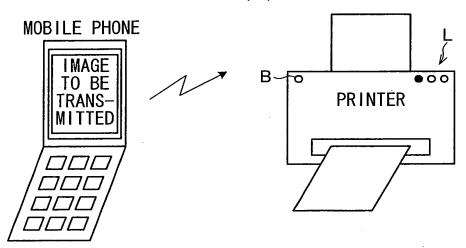


FIG. 17 (b)

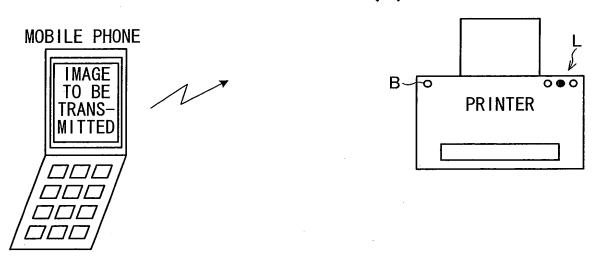
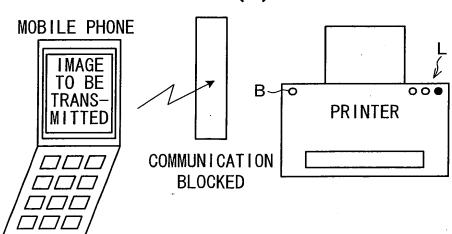


FIG. 17 (c)



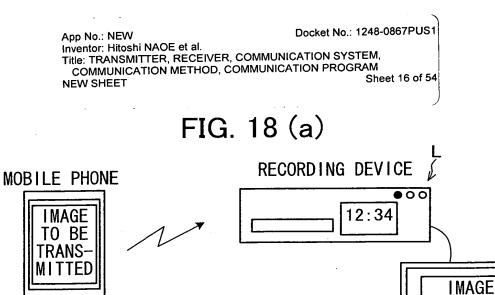


FIG. 18 (b)

RECE I VED

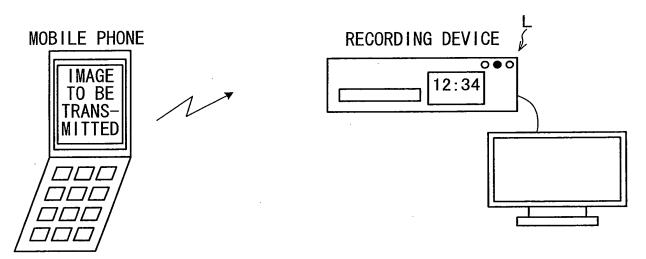
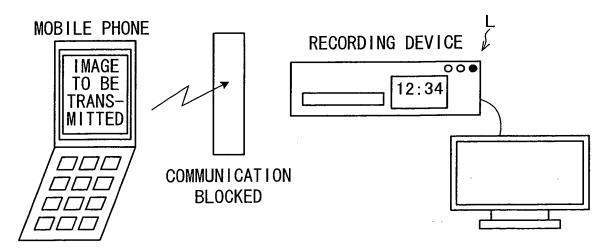


FIG. 18 (c)



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Title: TRANSMITTER RECEIVER COMMUNICA

Title: TRANSMITTER, RECEIVER, COMMUNICATION SYSTEM, COMMUNICATION METHOD, COMMUNICATION PROGRAM

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FIG. 19 (a)

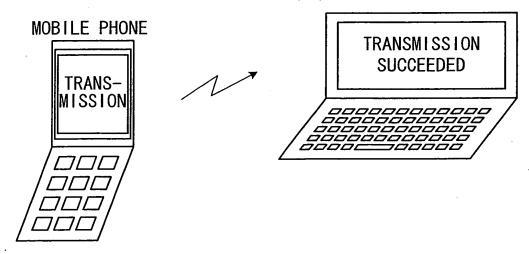


FIG. 19 (b)

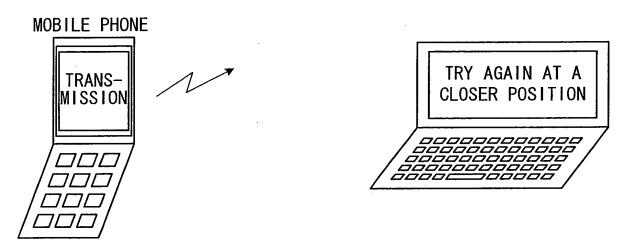
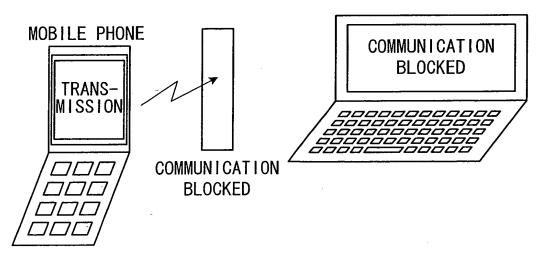


FIG. 19 (c)



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FIG. 20 (a)

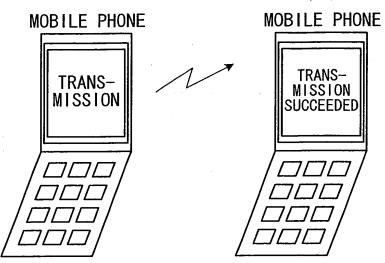


FIG. 20 (b)

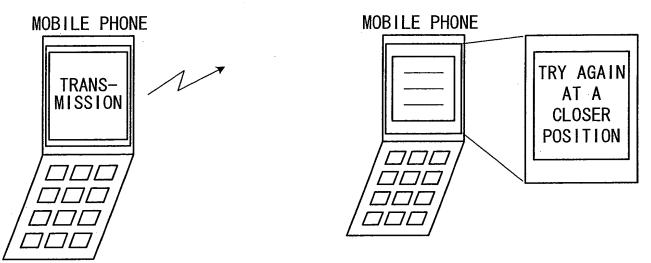
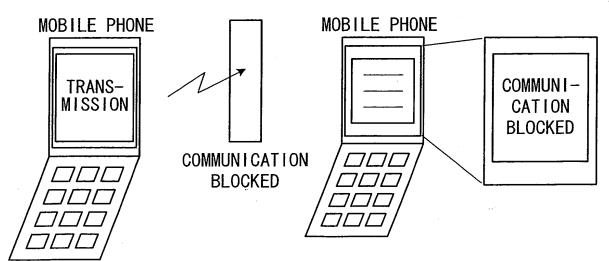


FIG. 20 (c)



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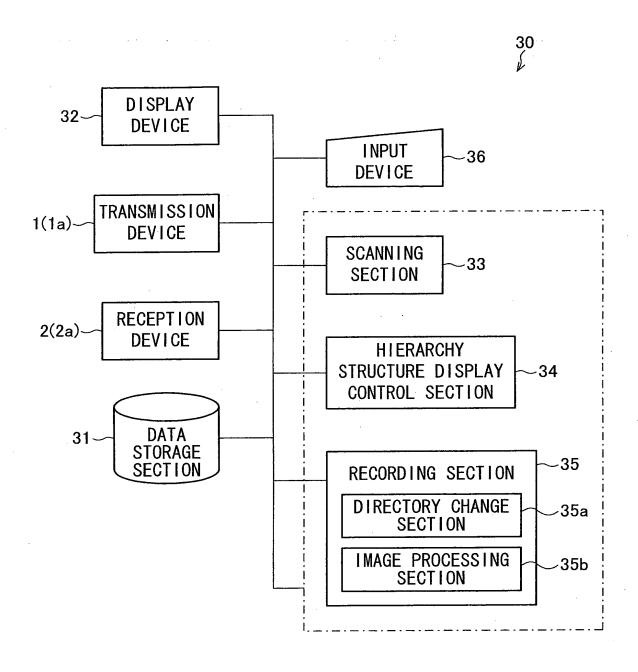
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NEW SHEET

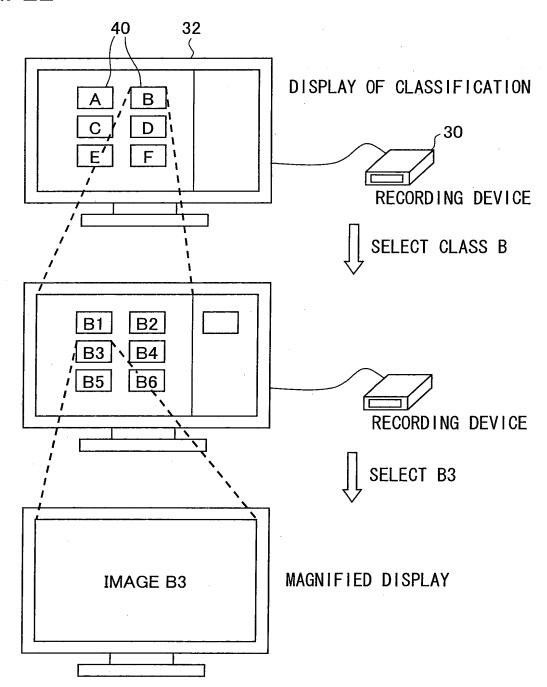
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FIG. 21



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Inventor: Hitoshi NAOE et al.
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FIG. 22

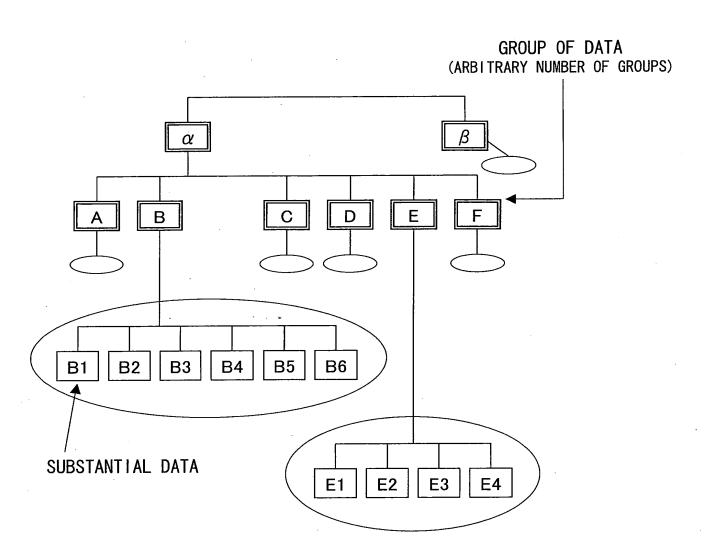


App No.: NEW Inventor: Hitoshi NAOE et al. Docket No.: 1248-0867PUS1

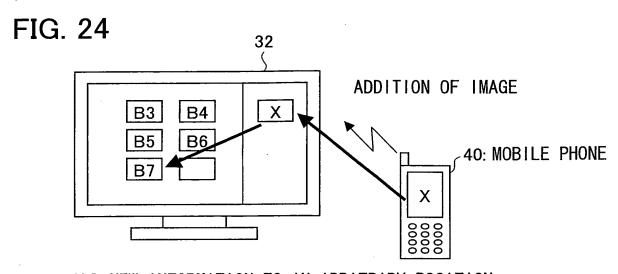
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FIG. 23

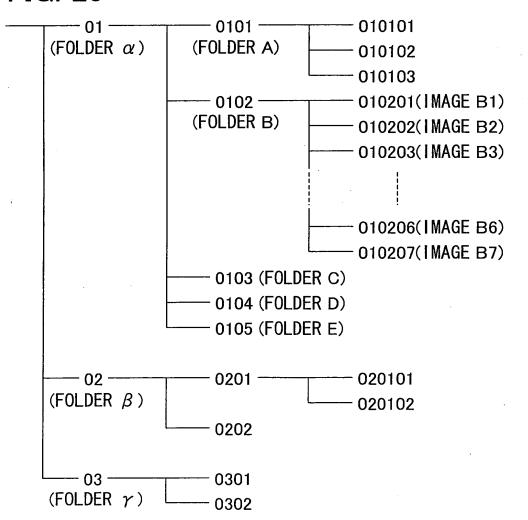


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Inventor: Hitoshi NAOE et al.
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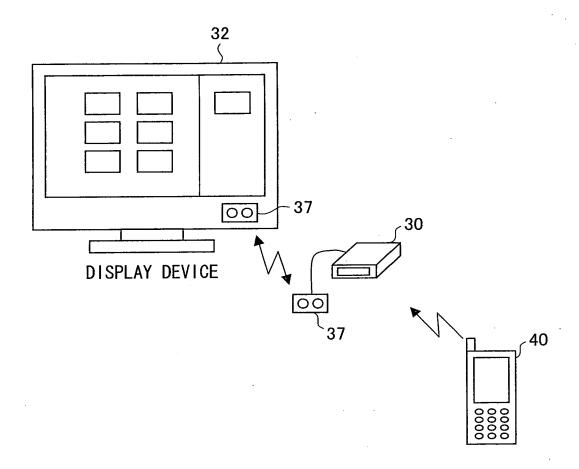
ADD NEW INFORMATION TO AN ARBITRARY POSITION IN THE HIERARCHY STRUCTURE

FIG. 25

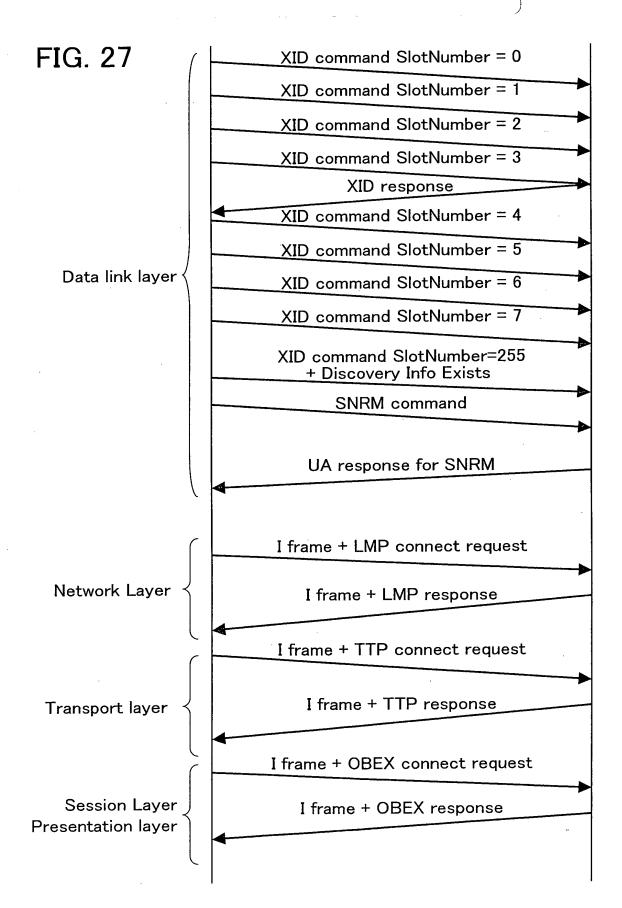


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FIG. 26



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Destination Discovery Slot Version Discovery (Global)		Destination Discovery Slot Version device address Flag No.	Destination Connection Negotiation device address Address	Destination Connection Negotiation device address Address	LMP connect request	LMP response	TTP connect request	TTP response	TTP Header OBEX connect request	
	-		Source device address	Source device address	LMP conr	LMP	LSAP	LSAP	LSAP	
Source device address		Source device address	SNRM Sc	SNRM Sc	Nr/Ns	Nr/Ns	Nr/Ns	Nr/Ns	Nr/Ns	
Format Identifier		Format Identifier	ļ		Addr	Addr	Addr	Addr	Addr	
R=1 :0xFE XID	XID response	C/R=1 XID Fo	SNRM command Addr=0xFE	UA response for SNRM Connection Address	I frame + LMP connect request	I frame + LMP response	I frame + TTP connect request	I frame + TTP response	I frame + OBEX connect request	

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FIG. 29

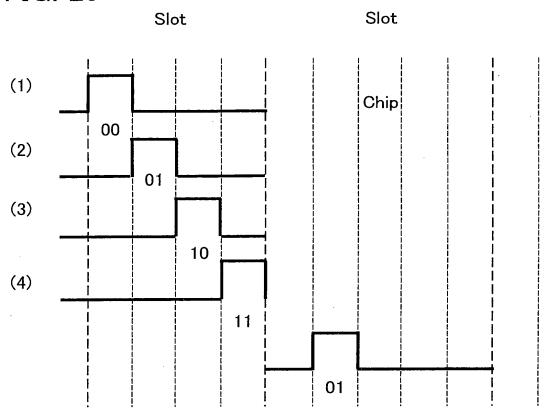


FIG. 30

PREAMBLE	START	ADDRESS	CONTROL	DATA	FCS	STOP
FIELD	FLAG	FIELD	FIELD	FIELD		FLAG

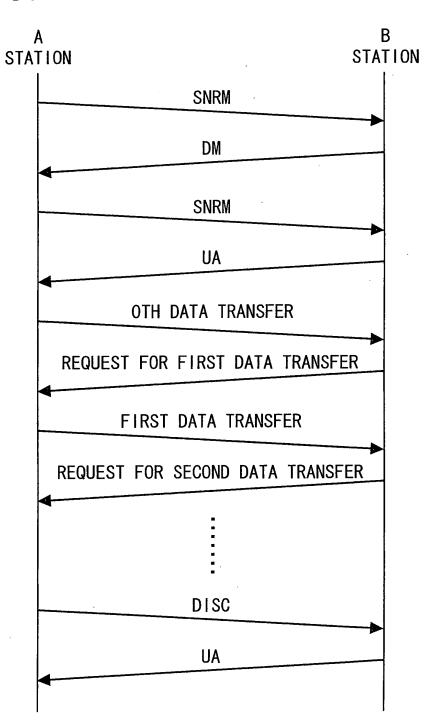
App No.: NEW Inventor: Hitoshi NAOE et al.

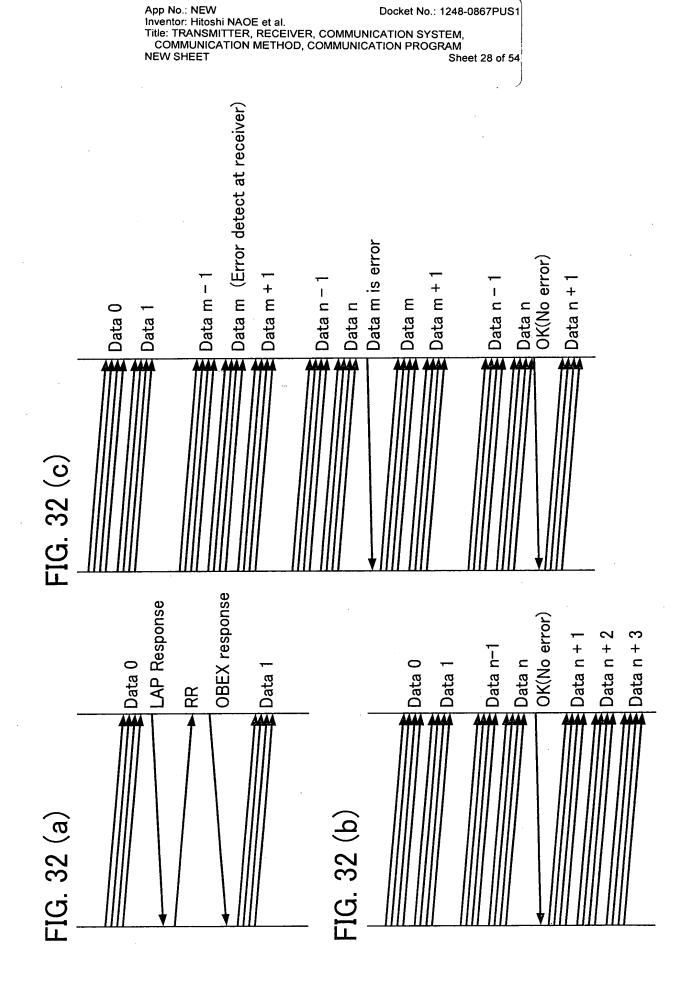
Docket No.: 1248-0867PUS1

Title: TRANSMITTER, RECEIVER, COMMUNICATION SYSTEM, COMMUNICATION METHOD, COMMUNICATION PROGRAM NEW SHEET

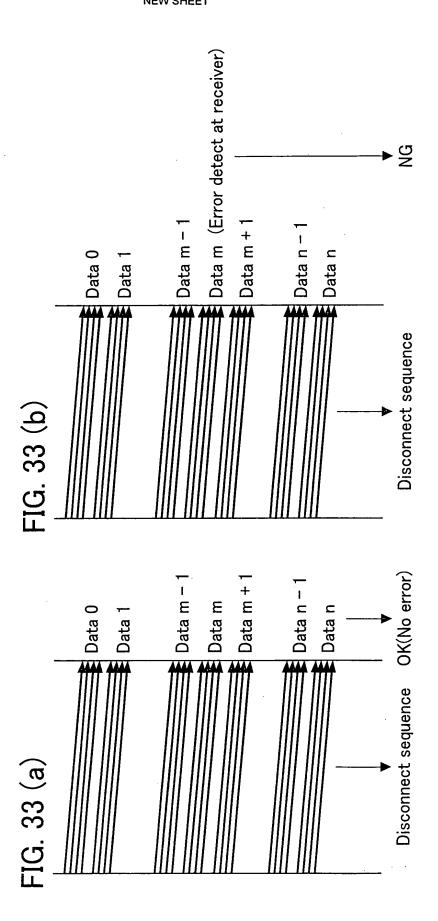
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FIG. 31





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OSI 7 HIERARCHY

IrDA HIERARCHY

ELECTRONIC

TRANS-ACTION

**PRINTING** 

**EXCHANGE** FIE

APPLICATION LAYER

!rMC, !rFM, TranP
(OBEX, !rCOM)

PRESENTATION LAYER

SESSION LAYER

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HIERARCHY OF PRESENT INVENTION ELECTRONIC TRANS-ACTION !rMC, !rFM, TranP
(OBEX, !rCOM) IrSimple Addition IrSimple Addition IrLAP **PRINTING** IrPHY SMP **EXCHANGE** 

TinyTP

TRANSPORT LAYER

IrLMP

NETWORK LAYER

IrLAP

IrPHY

PHYSICAL LAYER

DATA LINK LAYER

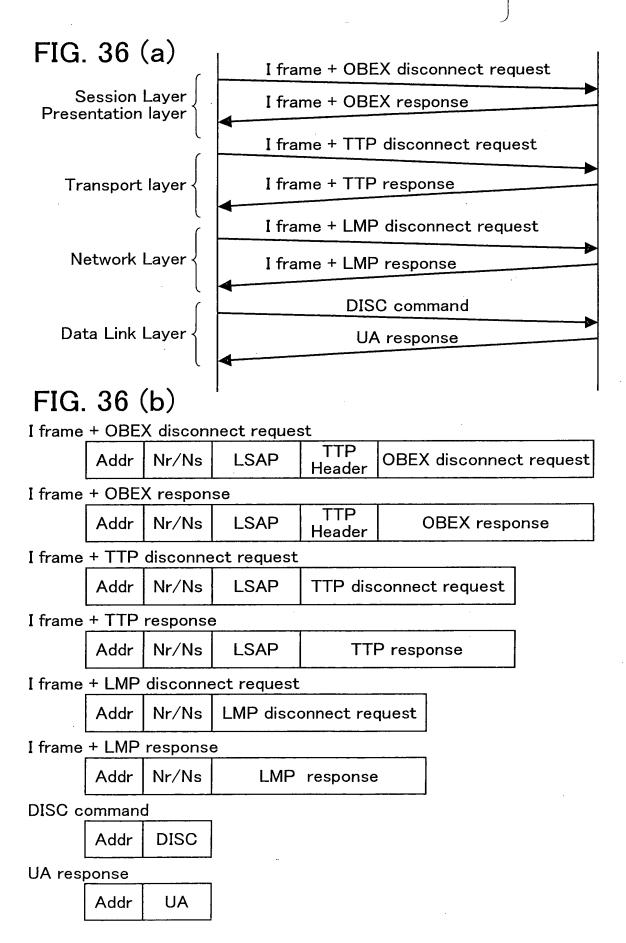
App No.: NEW Docket No.: 1246-0007F00.
Inventor: Hitoshi NAOE et al.
Title: TRANSMITTER, RECEIVER, COMMUNICATION SYSTEM,
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	OBEX Dat
	TTP Header
FKAME)	LSAP
FKAME (1	Nr/Ns
IrDA DAIA FKAME	Addr

DATA FRAME OF PRESENT INVENTION (UI FRAME)

OBEV	ODEA Data
sending right	Sequential Number
QΦU	3
=	5
Addr	50

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FIG. 37 (a)

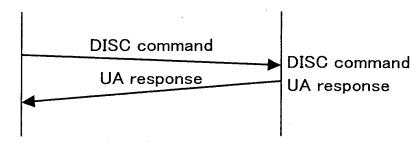


FIG. 37 (b)

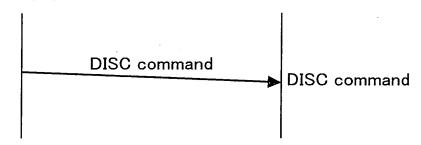
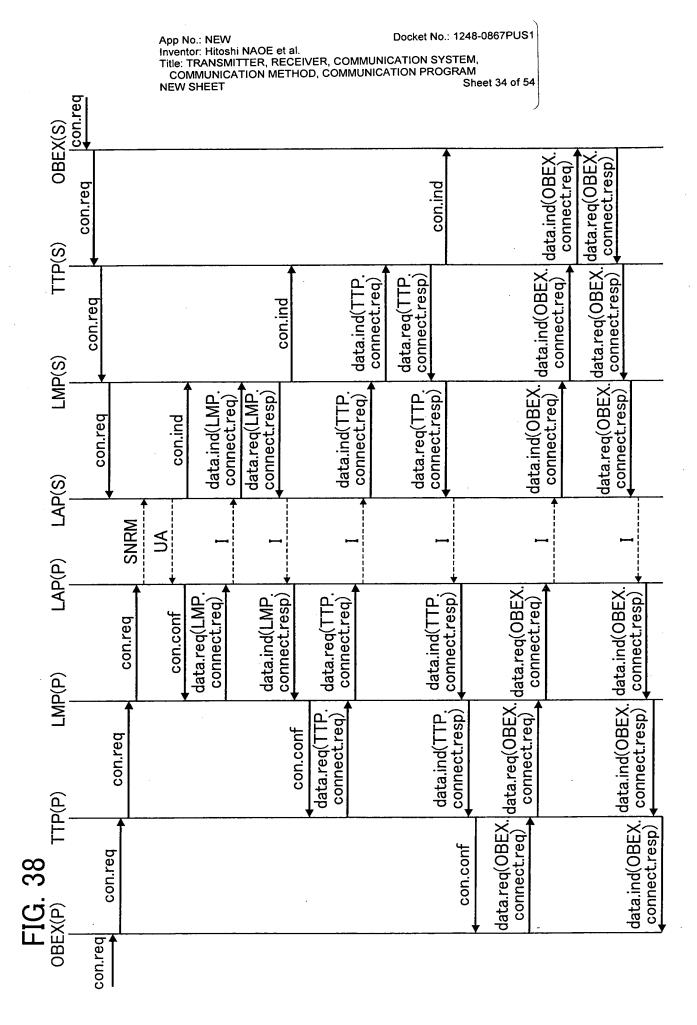


FIG. 37 (c)

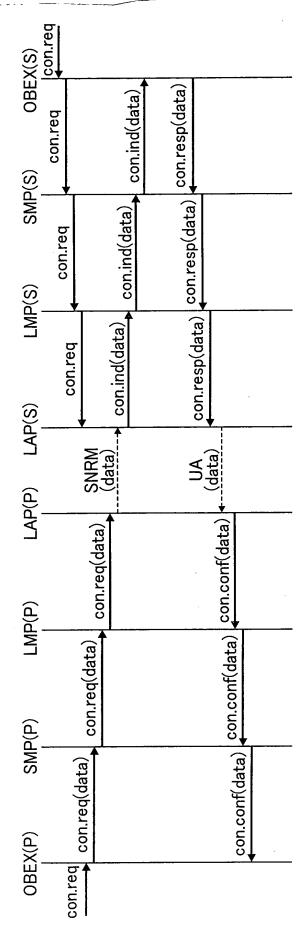
Addr	DISC	OBEX Disconnect command	DISC command
Addr	UA	OBEX Disconnect response	UA response



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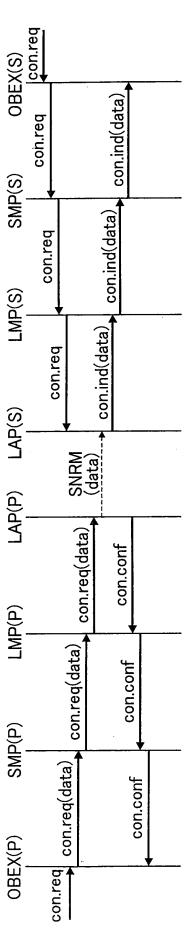


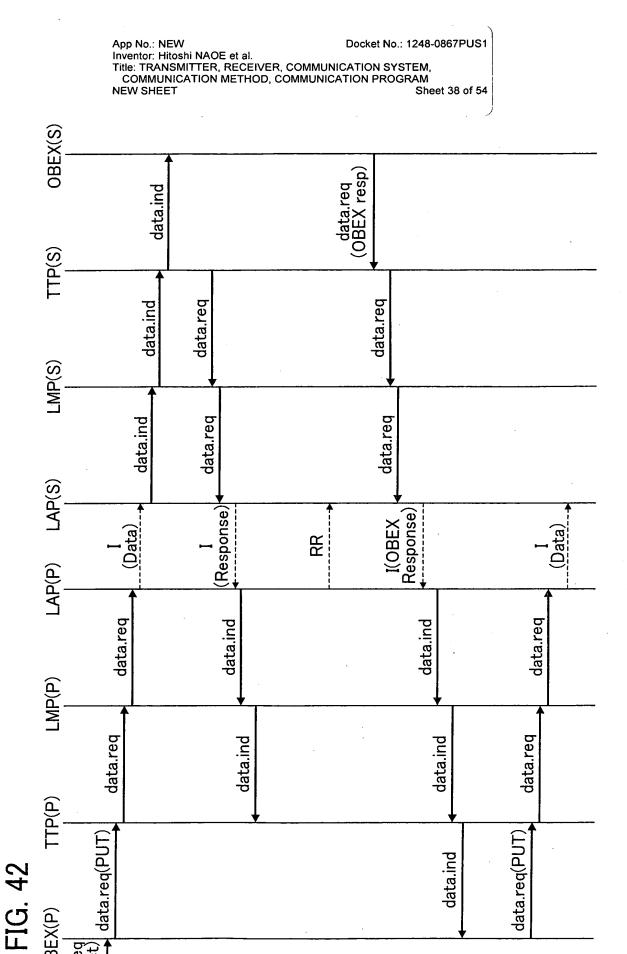
Inventor: Hitoshi NAOE et al. Title: TRANSMITTER, RECEIVER, COMMUNICATION SYSTEM, COMMUNICATION METHOD, COMMUNICATION PROGRAM Sheet 36 of 54 TRANSMITTER RECEIVER OBEX(S) TRANSMITTER RECEIVER OBEX(S) SMP(S) LAP(P)▼< LAP(S) SMP(S) / LAP(S) OBEX(P) OBEX(P) SMP(P) SMP(P) MP(P) LMP(P) Response Connect | Response Response Connect Response Connect Rednest Connect Connect Connect Connect Request Connect Request Request OBEX OBEX OBEX OBEX OBEX OBEX OBEX **Parameters** Parameters Parameters Parameters Parameters **Parameters** SMP SMP SMP SMP SMP SMP Connection Negotiation Address Parameters Connection Negotiation Address Parameters device address device address Destination Destination (Global) Source device device address address Source FIG. 40 (a) FIG. 40 (b) SNRM SNRM Connection Addr=0xFE Address C/R=0

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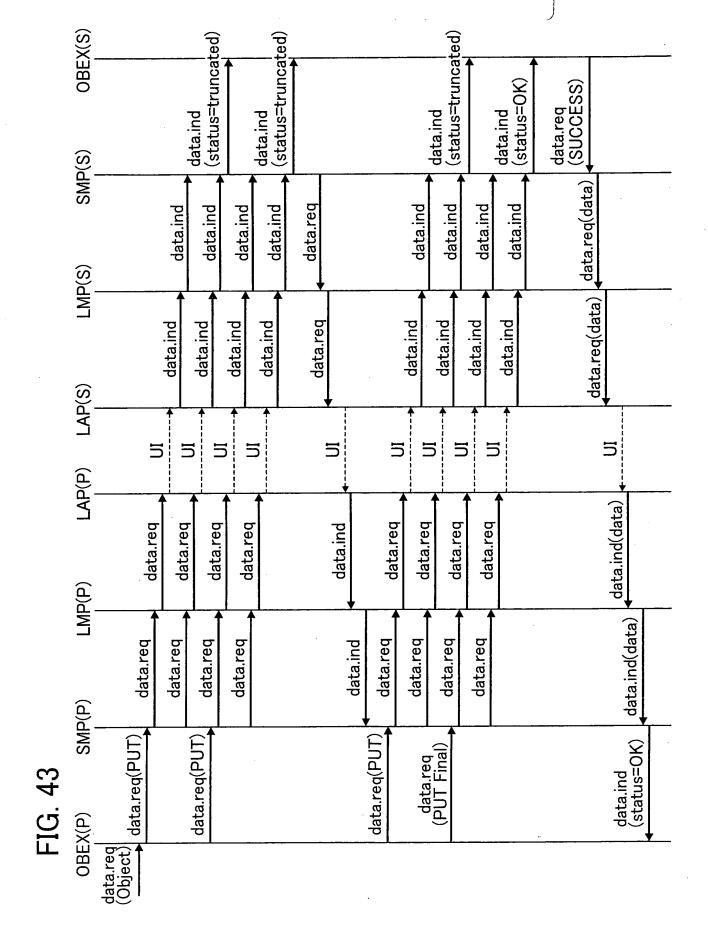


OBEX(P)

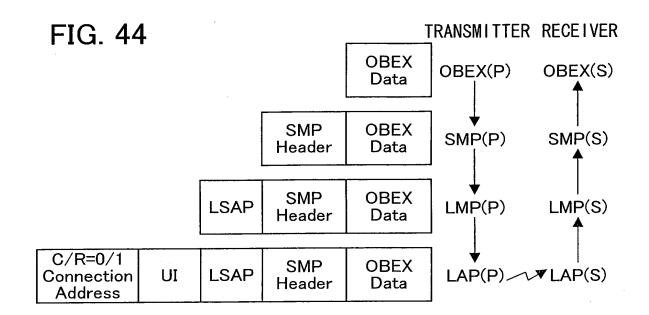
data.red (Object)

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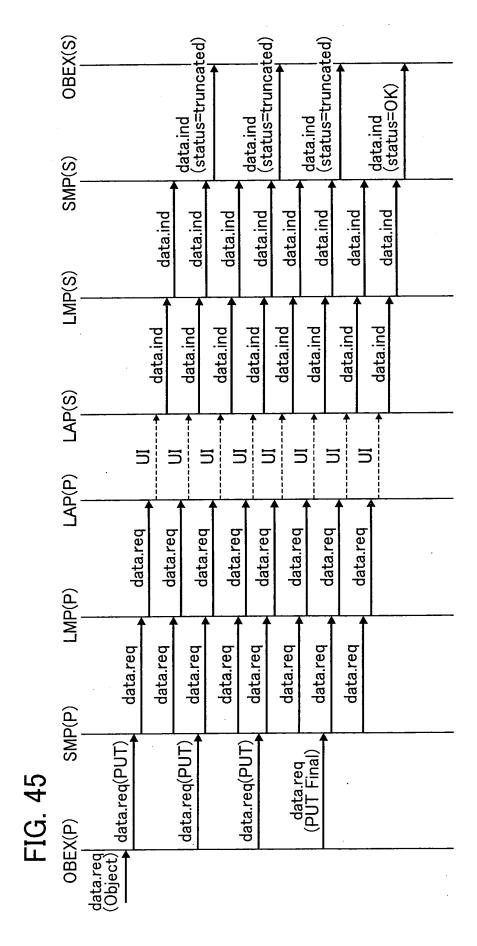
App No.: NEW Docket No.: 1248-0867PUS1
Inventor: Hitoshi NAOE et al.
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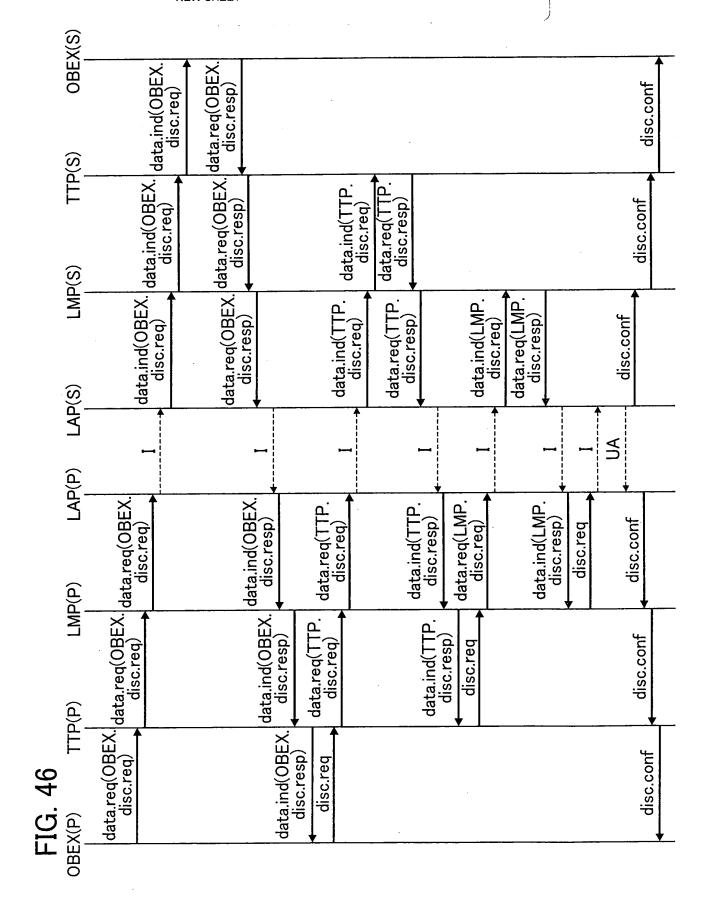
Docket No.: 1248-0867PUS1 App No.: NEW

Inventor: Hitoshi NAOE et al. Title: TRANSMITTER, RECEIVER, COMMUNICATION SYSTEM, COMMUNICATION METHOD, COMMUNICATION PROGRAM NEW SHEET She

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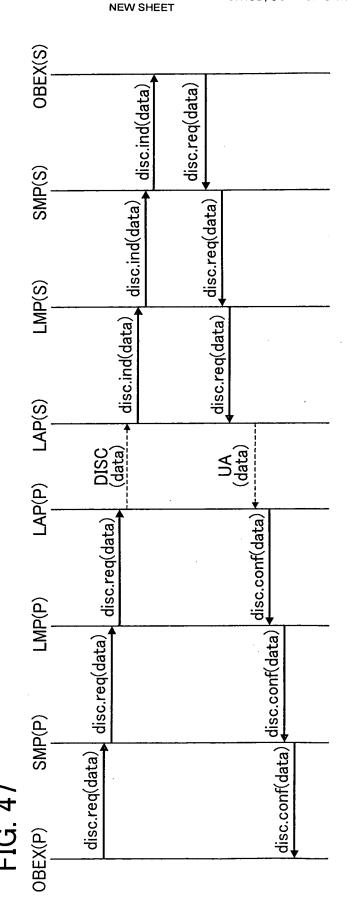
App No.: NEW Docket No.: 1248-0867PUS1
Inventor: Hitoshi NAOE et al.
Title: TRANSMITTER, RECEIVER, COMMUNICATION SYSTEM,
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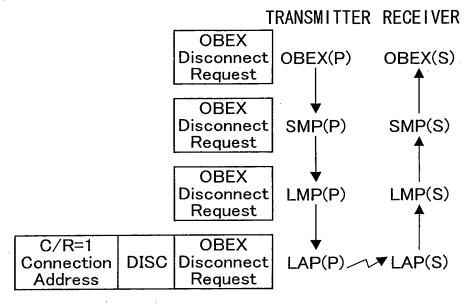
Title: TRANSMITTER, RECEIVER, COMMUNICATION SYSTEM,
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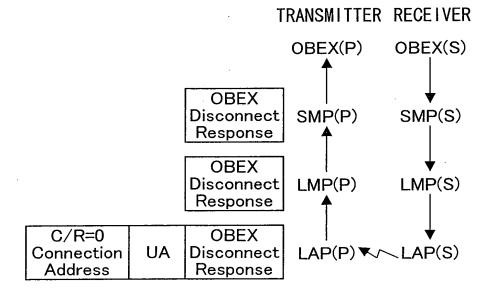


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#### FIG. 48 (a)

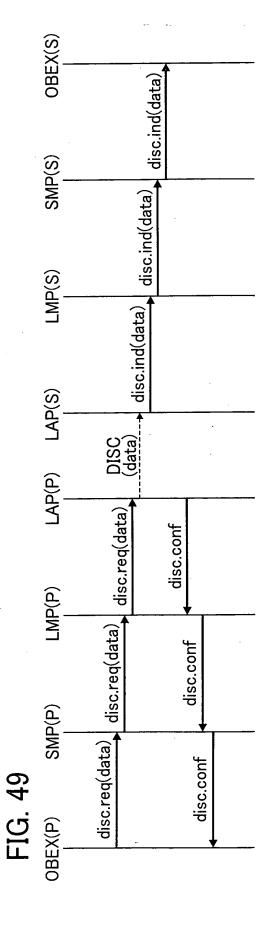


### FIG. 48 (b)



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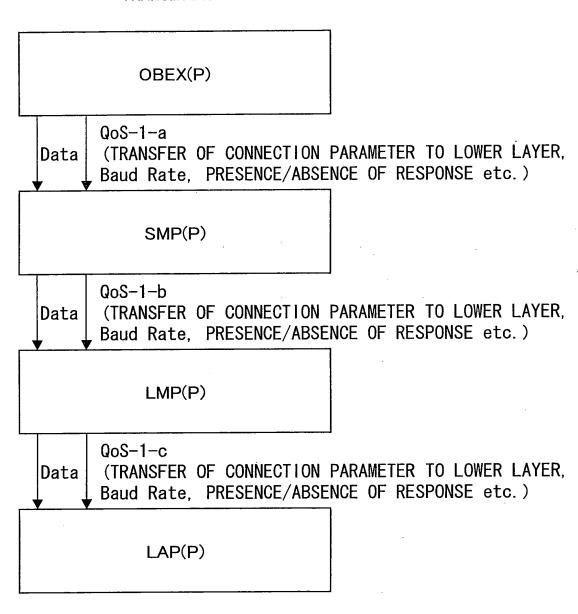
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#### FIG. 50

#### TRANSMITTER



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#### FIG. 51

# **RECEIVER** OBEX(S) QoS-2-a (TRANSFER OF CONNECTION PARAMETER TO LOWER LAYER, Baud Rate. PRESENCE/ABSENCE OF RESPONSE etc.) SMP(S) QoS-2-b (TRANSFER OF CONNECTION PARAMETER TO LOWER LAYER, Baud Rate, PRESENCE/ABSENCE OF RESPONSE etc.) LMP(S) QoS-2-c (TRANSFER OF CONNECTION PARAMETER TO LOWER LAYER. Baud Rate, PRESENCE/ABSENCE OF RESPONSE etc.) LAP(S)

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#### FIG. 52

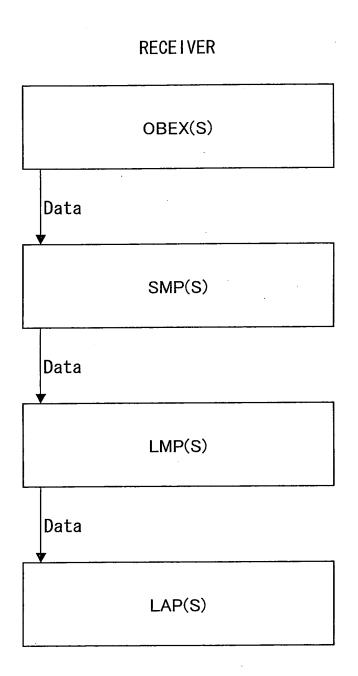
## **RECEIVER** OBEX(S) QoS-3-a (TRANSFER OF CONNECTION PARAMETER TO UPPER LAYER, Data Baud Rate. PRESENCE/ABSENCE OF RESPONSE etc.) SMP(S) QoS-3-b (TRANSFER OF CONNECTION PARAMETER TO UPPER LAYER, Data Baud Rate, PRESENCE/ABSENCE OF RESPONSE etc.) LMP(S) QoS-3-c (TRANSFER OF CONNECTION PARAMETER TO UPPER LAYER, Data Baud Rate, PRESENCE/ABSENCE OF RESPONSE etc.) LAP(S)

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FIG. 53



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#### FIG. 54

# **TRANSMITTER** OBEX(P) QoS-3-a (TRANSFER OF CONNECTION PARAMETER TO UPPER LAYER, Baud Rate, PRESENCE/ABSENCE OF RESPONSE etc.) SMP(P) QoS-3-b (TRANSFER OF CONNECTION PARAMETER TO UPPER LAYER, Baud Rate. PRESENCE/ABSENCE OF RESPONSE etc.) LMP(P) QoS-3-c (TRANSFER OF CONNECTION PARAMETER TO UPPER LAYER, Baud Rate, PRESENCE/ABSENCE OF RESPONSE etc.) LAP(P)

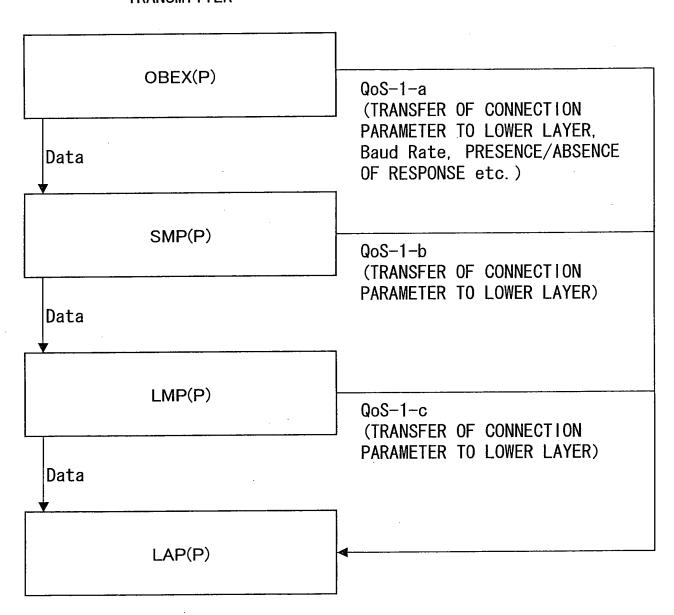
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FIG. 55

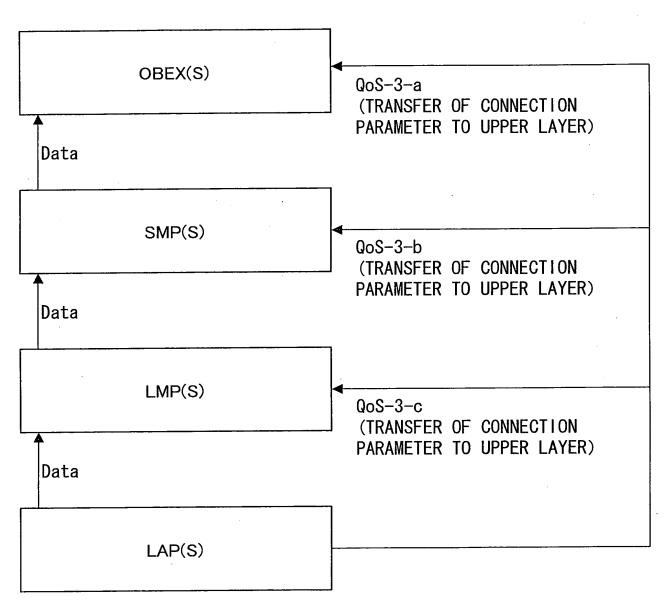
**TRANSMITTER** 



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FIG. 56

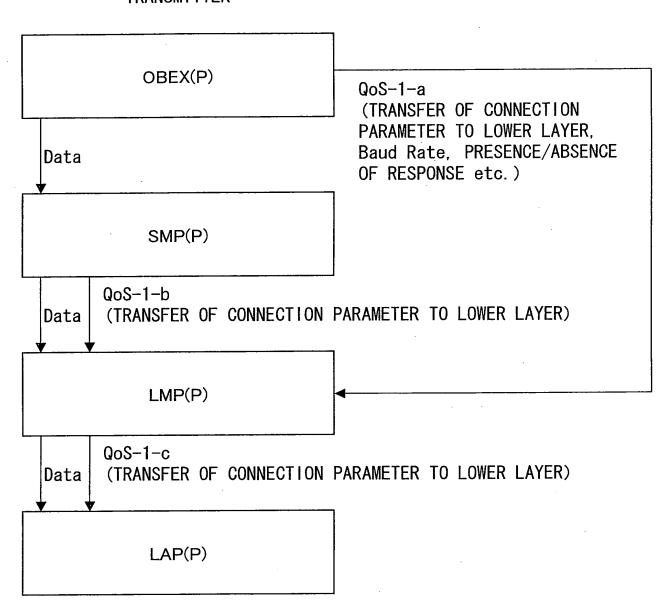
**RECEIVER** 



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### FIG. 57

#### TRANSMITTER



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